

**DEPARTMENT OF CONSUMER & INDUSTRY SERVICES  
DIRECTOR'S OFFICE  
CONSTRUCTION SAFETY STANDARDS**

Filed with the Secretary of State on August 31, 1976 (as amended November 21, 1980)  
(as amended November 23, 1982) (as amended May 17, 1983) (as amended September 10, 1985)  
(as amended January 11, 1988) (as amended September 3, 1996) (as amended July 12, 1999)

These rules take effect 15 days after filing with the Secretary of State

(By authority conferred on the director of the department of consumer and industry services by sections 19 and 21 of Act No. 154 of the Public Acts of 1974, as amended, and Executive Reorganization Order No. 1996-2, being §§408.1019, 408.1021, and 445.2001 of the Michigan Compiled Laws)

R 408.40615, R 408.40616, R 408.40621, R 408.40623, R 408.40625, and R 408.40641 of the Michigan Administrative Code are amended and R 408.40631, R 408.40632, and R 408.40635 are added to the Code as follows:

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## PART 6. PERSONAL PROTECTIVE EQUIPMENT

### TABLE OF CONTENTS

Scope .....	R 408.40601	Body protection .....	R 408.40626
Definitions; H to O .....	R 408.40615	Reflectorized vests and apparel .....	R 408.40627
Definitions; S .....	R 408.40616	Protection from unguarded surfaces ....	R 408.40631
Employer responsibility .....	R 408.40617	Safety Lines .....	R 408.40632
Certification of head protection .....	R 408.40621	Lineman's belt and safety strap; use ..	R 408.40633
Use of head protection .....	R 408.40622	Lineman's belt and safety strap; construction .....	R 408.40634
Certification of face and eye protection .....	R 408.40623	Safety Nets .....	R 408.40635
Use of face and eye protection .....	R 408.40624	Working over or near water .....	R 408.40636
Certification and use of foot protection .....	R 408.40625	Rubber protective equipment; certification; use and storage .....	R 408.40641

### GENERAL PROVISIONS

#### R 408.40601. Scope.

**Rule 601.** This part provides specifications for personal protective equipment and prescribes the use of this equipment for the protection of the employee's head, face, eyes, hands, feet, and body during construction operations.

#### R 408.40615 Definitions; H to O.

**Rule 615.** (1) "Helmet," sometimes called a hard hat or cap, means a rigid device that is worn to provide protection for the head.

(2) "Hood" means a device which is worn to provide protection against acids, chemicals, abrasives, and temperature extremes and which entirely encloses the whole head, including the face and neck.

(3) "Lanyard" means a device which is suitable for supporting 1 person and which has 1 end fastened to a safety belt or harness and the other end secured to a substantial object or a lifeline.

(4) "Lifeline," sometimes called a static line or a catenary line, means a rope to which a lanyard or safety belt or harness is attached.

(5) "Lineman's belt," sometimes called a body belt, means a device that has loops and holsters for holding tools and D rings to which a safety strap is attached.

(6) "O.D." means optical density and refers to the light refractive characteristics of a lens.

#### R 408.40616 Definitions; S.

**Rule 616.** (1) "Safety belt" means a device which is worn around the waist and which, by reason of its attachment to a device, restricts the fall of an employee.

(2) "Safety harness" means a device which is worn over the shoulders and around the chest and which, by reason of its attachment to a device, restricts the fall of an employee.

(3) "Safety line" means a device used for emergency rescue work.

(4) "Safety strap," sometimes called a safety rope, means an adjustable device used to hold an employee to a fixed object, such as a pole, ladder, or tower. A safety strap is fastened by snap hooks to the D rings of a lineman's body belt.

(5) "Sanitizing" means an act or process of destroying organisms that may cause disease.

#### R 408.40617. Employer responsibility.

**Rule 617.** (1) An employer shall provide to an employee, at no expense to the employee, the initial issue of personal protective equipment and replacement equipment necessary due to reasonable wear and tear required by this part or any other construction safety standard rules, unless specifically indicated otherwise in this part or any other construction safety standard rules, or unless a collective bargaining or other employer-employee agreement specifically requires employees to provide such equipment.

(2) An employer shall require an employee to wear personal protective equipment when prescribed by the rules of this part.

(3) If the employer supplies personal protective equipment which is worn in direct contact with the skin, the equipment shall be sanitized before being reissued to another employee.

(4) Subrule (1) of this rule does not preclude an employer from developing company rules concerning the

replacement of personal protective equipment where not in conflict with a collective bargaining agreement.

(5) Any company rule which deals with the replacement of personal protective equipment shall be in writing, shall be issued to an employee upon hiring or on file with an authorized employee representative, and shall be posted.

#### **R 408.40621 Certification of head protection.**

**Rule 621.** (1) A class A helmet shall bear a certification by the manufacturer that the helmet is as prescribed in ANSI standard Z89.1-1986, industrial head protection, which is adopted in these rules by reference and may be inspected at the Lansing office of the department of consumer and industry services. The standard may be purchased at a cost of \$24.00 as of the time of adoption of these rules from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909.

(2) A class B helmet for the protection of an employee exposed to voltages of more than 600 volts shall bear a certification by the manufacturer that the helmet is as prescribed in ANSI standard Z89.2-1986, industrial protective helmets for electrical workers, which is adopted in these rules by reference and may be inspected at the Lansing office of the department of consumer and industry services. The standard may be purchased at a cost of \$24.00 as of time of adoption of these rules from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

#### **R 408.40622. Use of head protection.**

**Rule 622.** (1) A helmet, as prescribed in R 408.40621, shall be used to protect the employee where a hazard or risk of injury exists from falling or flying objects or particles or from other harmful contacts or exposures.

(2) Where there is exposure to electrical contact, helmet liners or wind guards shall not be in contact with the outside shell of the helmet.

(3) A metallic helmet shall not be used.

(4) A helmet that has been physically altered, painted, or damaged shall not be worn.

(5) An employee shall not physically alter the helmet.

(6) A chin strap shall be provided with a helmet and shall be used when the employee is exposed to weather or work operations that may cause the helmet to be displaced.

(7) A hat, cap, or net shall be worn by a person where there is a danger of hair entanglement in moving machinery or equipment or where there is exposure to means of ignition. The hair enclosure shall be designed to be reasonably comfortable to the wearer, shall completely enclose all loose hair, and shall be adjustable. Material used for a hair enclosure shall be fast-dyed and non-irritating to the skin when subject to perspiration.

(8) A hair enclosure used in an area where there is a danger of ignition from heat, flame, or chemical reaction shall be made of materials that are flame-retardant.

#### **R 408.40623 Certification of face and eye protection.**

**Rule 623.** Except for the devices required by R 408.40624(6), all face and eye protection devices shall bear a certification by the manufacturer that the device has been produced according to ANSI standard Z87.1, as revised in 1991, occupational and educational eye and face protection, which is adopted in these rules by reference and may be inspected at the Lansing office

of the department of consumer and industry services. The standard may be purchased at a cost of \$42.00 as of the time of adoption of these rules from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, P.O. Box 30643, Lansing, Michigan 48909. If it is impractical for the protection device to bear the certification, then the container for the device shall bear the certification.

#### **R 408.40624. Use of face and eye protection.**

**Rule 624.** (1) Face and eye protection, as prescribed in R 408.40623, shall be used where a hazard or risk of injury exists from flying objects or particles, harmful contacts, exposures such as glare, liquids, injurious radiation, electrical flash, or a combination of these hazards. Table 1 shall be used as a guide to select the proper eye and face protection.

(2) Contact lenses or United States food and drug administration standard hardened lenses shall not be considered as eye protection as required by this part.

(3) An employee who needs corrective lenses in spectacles where eye protection is required shall be protected by 1 of the following:

(a) Spectacles whose protective lenses provide optical correction.

(b) Goggles that can be worn over the corrective lenses without disturbing the adjustment of the spectacles.

(c) Goggles that incorporate corrective lenses mounted behind the protective lenses.

(4) Face and eye protection equipment shall be of proper size to fit the employee and protect against the intrusion of foreign objects. Face and eye protection shall be kept clean and in good repair. Equipment with structural or optical defects shall not be used.

(5) When an employee is welding and using a welding shield, the shield shall incorporate a safety glass feature with a flip-up filter lens or the employee shall wear safety glasses with side shields or goggles under the shield when the shield is raised and is exposed to flying objects.

(6) Table 2 shall be used to select the proper shade number of filter lenses or plates during welding operations.

(7) An employee exposed to laser beams with a wattage of more than .005 (5 milliwatts) shall wear laser safety goggles which provide protection for the specific wavelength of the laser and which are of an optical density (O.D.) adequate for the energy involved. The maximum power or energy density for which adequate protection is afforded by glasses of optical densities from 5 to 8 is shown in table 3. Output levels falling between lines in this table shall require the higher optical density.

(8) Laser protective goggles shall bear a label by the manufacturer showing all of the following data:

(a) The laser wavelengths for which use is intended.

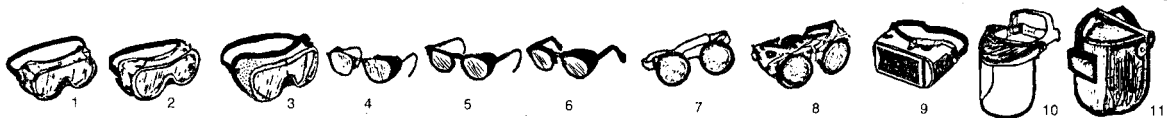
(b) The optical density of those wavelengths.

(c) The visible light transmission.

If requiring the goggles to bear the data is impractical, then the goggle box shall bear the data.

(9) Table 1 reads as follows:

**TABLE 1  
EYE AND FACE PROTECTOR SELECTION GUIDE**



- |   |   |
|---|---|
| <p>1. GOGGLES, Flexible Fitting, Regular Ventilation</p> <p>2. GOGGLES, Flexible Fitting, Hooded Ventilation</p> <p>3. GOGGLES, Cushioned Fitting, Rigid Body</p> <p>* 4. SPECTACLES, Metal Frame, with Side Shields</p> <p>* 5. SPECTACLES, Plastic Frame, with Side Shields</p> <p>* 6. SPECTACLES, Metal-Plastic Frame, with Side Shields</p> <p>** 7. WELDING GOGGLES, Eyecup Type, Tinted Lenses (Illustrated)</p> | <p>7A. CHIPPING GOGGLES, Eyecup Type, Clear Safety Lenses (Not Illustrated)</p> <p>** 8. WELDING GOGGLES, Coverspec Type, Tinted Lenses (Illustrated)</p> <p>** 8A. CHIPPING GOGGLES, Coverapex Type, Clear Safety Lenses. (Not Illustrated)</p> <p>** 9. WELDING GOGGLES, Coverspec Type, Tinted Plate Lens</p> <p>10. FACE SHIELD (Available with Plastic or Mesh Window)</p> <p>** 11. WELDING HELMETS</p> |
|---|---|

APPLICATIONS		
OPERATION	HAZARDS	RECOMMENDED PROTECTORS: <i>Bold Type Numbers Signify Preferred Protection</i>
Acetylene-Burning Acetylene-Cutting Acetylene-Welding	Sparks, Harmful rays, Molten Metal, Flying Particles	<b>7, 8, 9</b>
Chemical Handling	Splash, Acid burns, Fumes	<b>2, 10</b> (For severe exposure add 10 over 2)
Chipping	Flying Particles	<b>1, 3, 4, 5, 6, 7A, 8A</b>
Electric (arc) Welding	Sparks, Intense Rays, Molten Metal	<b>9, 11</b> (11 in combination with 4, 5, 6, in tinted lenses advisable)
Furnace Operations	Glare, Heat, Molten Metal	<b>7, 8, 9</b> (For severe exposure add 10)
Grinding-Light	Flying Particles	<b>1, 3, 4, 5, 8, 10</b>
Grinding-Heavy	Flying Particles	<b>1, 3, 7A, 8A</b> (For severe exposure add 10)
Laboratory	Chemical Splash, Glass Breakage	<b>2</b> (10 when in combination with 4, 5, 6)
Machining	Flying Particles	<b>1, 3, 4, 5, 8, 10</b>
Molten Metals	Heat, Glare, Sparks, Splash	<b>7, 8</b> (10 in combination with 4, 5, 6, in tinted lenses)
Spot Welding	Flying Particles, Sparks	<b>1, 3, 4, 5, 8, 10</b>

\* Non-side shield spectacles are available for limited hazard use requiring only frontal protection.

\*\* See table 2 of this rule, filter Lens Shade Numbers, for protection for welding operations.

(10) Table 2 reads as follows:

**TABLE 2  
FILTER LENS SHADE NUMBERS  
DURING WELDING OPERATIONS**

WELDING OPERATION	SHADE NUMBER
Shielded metal-arc welding 1/16-, 3/32-, 1/8-, 5/32-, inch diameter electrodes .....	10
Gas-shielded arc welding (nonferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes .....	11
Gas-shielded arc welding (ferrous) 1/16-, 3/32-, 1/8-, 5/32-inch diameter electrodes .....	12
Shielded metal-arc welding 3/16-, 7/32-, 1/4-inch diameter electrodes .....	12
5/16-, 3/8-inch diameter electrodes .....	14
Atomic hydrogen welding .....	10 - 14
Carbon-arc welding .....	14
Soldering .....	2
Torch brazing .....	3 or 4
Light cutting, up to 1 inch .....	3 or 4
Medium cutting, 1 inch to 6 inches .....	4 or 5
Heavy cutting, over 6 inches .....	5 or 6
Gas welding (light), up to 1/8-inch .....	4 or 5
Gas welding (medium), 1/8-inch to 1/2-inch .....	5 or 6
Gas welding (heavy), over 1/2-inch .....	6 or 8

(11) Table 3 reads as follows:

**TABLE 3  
SELECTING LASER SAFETY GLASS**

INTENSITY	ATTENUATION	
CW Maximum Power Density (Watts/cm <sup>2</sup> )	Optical Density (O.D.)	Attenuation Factor
10 <sup>-2</sup>	5	10 <sup>5</sup>
10 <sup>-2</sup>	6	10 <sup>6</sup>
1.0	7	10 <sup>7</sup>
10.0	8	10 <sup>8</sup>

\*10<sup>-2</sup> Equals 1 Milliwatt.

#### **R 408.40625 Certification and use of foot protection.**

**Rule 625.** (1) Safety toe footwear shall bear a permanent mark to show the manufacturer's name or trademark and to show certification of compliance with ANSI standard Z41-1991, protective foot wear personal protection, which is adopted in these rules by reference and may be inspected at the Lansing office of the department of consumer and industry services. The standard may be purchased at a cost of \$20.00 as of the time of adoption of these rules from the American National Standards Institute, 1430 Broadway, New York,

New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(2) An employee shall wear foot protection or toe protection, or both, if conditions of the job are likely to cause a foot injury. The employee shall provide the foot protection or toe protection unless specifically otherwise provided for in a collective bargaining agreement or other employer-employee agreement.

(3) Where toe protection other than safety toe footwear prescribed in subrule (1) of this rule is worn the toe protection shall have an impact value of not less than that required for the safety toe footwear.

(4) Where a hazard is created from a process, a chemical or mechanical irritant which could cause an injury or impairment to the feet by absorption or from physical contact other than from impact, footwear such as boots, overshoes, rubbers, wooden-soled shoes, or their equivalent shall be worn by the employee and provided for by the employer.

(5) The foot protection shall be maintained without holes due to wear, rips, or tears which reduce the intended protection.

#### **R 408.40626. Body protection.**

**Rule 626.** (1) An employee who handles rough, sharp-edged, abrasive materials, or whose work subjects the hands to lacerations, punctures, burns, or bruises, shall wear hand protection of a type suitable for the work being performed. The employee shall provide the hand protection unless specifically otherwise provided for in a collective bargaining agreement or other employer-employee agreement.

(2) Cloth gloves shall not be worn when operating rotating equipment such as a drill or a powered threading machine.

(3) Precautions shall be taken with regard to synthetic clothing that is worn near a source of flame, spark, a hot surface, or material that could ignite the clothing.

(4) An employee shall not wear loose clothing, neckwear encircling the neck, or exposed jewelry, such as rings and necklaces, near a machine having reciprocating or rotating shafts or spindles or when handling material that could catch on clothing or jewelry and cause injury. A ring shall not be worn on the finger unless covered by a glove or tape.

(5) When an employee is exposed to hazards such as radiation, alkalies, acids, abrasives, and temperature extremes other than those caused by weather conditions, appropriate head, body, and hand protection shall be worn to protect the employee from that hazard. Such personal protective equipment shall be provided by the employer.

(6) A hood shall be made of materials that combine mechanical strength and lightness of weight to a high degree, shall be non-irritating to the skin when subjected to perspiration, and shall be capable of withstanding frequent cleaning and disinfection. Materials used in the manufacture of goods shall also be suitable to withstand the hazards to which the user may be exposed. An air-line hood shall meet the requirements of the department of consumer and industry services.

#### **R 408.40627. Reflectorized vests and apparel.**

**Rule 627.** (1) A flagperson shall wear a fluorescent orange warning garment while flagging or directing vehicular traffic.

(2) A warning garment worn at night shall be reflectorized.

#### **R 408.40631 Protection from unguarded surfaces.**

**Rule 631.** (1) An employer shall ensure that an employee whose protection from falling is not covered by another part of the construction safety standards and who works more than 10 feet above the ground or floor from an unguarded work surface or who, regardless of height, works from an unguarded work surface above or adjacent to, or above and adjacent to, a specific hazard, such as, but not limited to, dangerous equipment or an open tank or vat of hazardous substances, is either secured by a rope grab to a lifeline or to a structure or is protected by a safety net prescribed in R 408.40635.

(2) Subrule (1) of this rule does not apply to an employee who is doing any of the following:

- (a) Performing the operations of making initial connections of structural shapes up to 30 feet in height above the floor, water, or ground.
- (b) Erecting a hoist, derrick, scaffold, or elevator if it is impractical to affix a lifeline, a lanyard, or a safety net.
- (c) Overhand bricklaying if the mechanic is not required to reach more than 10 inches below the normal work surface.

(3) An employer shall ensure that a lifeline, safety belt, and a lanyard is used only for employee safeguarding. An employer shall ensure that a lifeline, safety belt, or lanyard actually subjected to inservice loading is immediately removed from service and is not used again for employee safeguarding.

(4) An employer shall ensure that a lifeline is secured directly above the point of operation to an anchorage or structural member capable of supporting a minimum dead weight of 5,400 pounds.

(5) An employer shall ensure that a lifeline used on rock-scaling operations or used in an area where the lifeline may be subjected to cutting or abrasion is a minimum of 7/8-inch wire core manila rope or equivalent. For other applications, an employer shall ensure that a minimum of 3/4-inch manila rope, or equivalent, that has a minimum breaking strength of 5,400 pounds is used.

(6) An employer shall ensure that a safety belt lanyard is a minimum of 1/2-inch nylon rope, or equivalent, that has a maximum length which provides for a vertical drop of not more than 6 feet from the point that the rope is attached to the body.

(7) An employer shall ensure that a safety belt, safety harness, lanyard, and lifeline is constructed as prescribed in ANSI standard A10.14-1991, requirements for safety belts, harnesses, lanyards, and lifelines for construction and demolition use, which is adopted in these rules by reference and may be inspected at the Lansing office of the department of consumer and industry services. The standard may be purchased at a cost as of the time of adoption of these rules of \$40.00 from the American National Standards Institute, 1430 Broadway, New York, New York 10018, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(8) A safety belt or safety harness purchased after the effective date of this part shall bear certification that it has been constructed as prescribed according to ANSI standard A10.14-1991.

#### **R 408.40632 Safety lines.**

**Rule 632.** (1) An employer shall ensure that a safety line is used for emergency rescue work and is not subjected to shock loading.

(2) An employer shall ensure that a safety line is not less than 1/2-inch diameter first-grade manila rope or equivalent.

**R 408.40633. Lineman's belt and safety strap; use.**

**Rule 633.** (1) A lineman's belt and safety strap shall be worn by an employee working on a pole, tower, or other such structure, except where use of the belt and strap creates a greater hazard. If use of the belt and strap creates a greater hazard, other equivalent safeguards that do not create a greater hazard shall be used.

(2) A lineman's belt and safety strap shall not be used in a manner that subjects them to a shock load, unless the belt and strap are in compliance with the requirements of the safety belt and lanyard as prescribed in Part 45. Fall Protection, being R 408.44501 et seq. of the Michigan Administrative Code.

(3) A lineman's belt and safety strap shall be inspected before use each day and shall be replaced or repaired if found to be defective.

**R 408.40634. Lineman's belt and safety strap; construction.**

**Rule 634.** A lineman's belt and safety strap shall meet all of the following criteria:

(a) Hardware for a lineman's belt, safety belt, and safety strap shall be drop-forged or pressed steel with a corrosion-resistant finish. The surface shall be smooth and free of sharp edges.

(b) The hardware shall be constructed to withstand the following tests:

- (i) Buckles, 2,000-pound tensile test with a permanent deformation of not more than 1/64 inch.
- (ii) D rings, 5,000-pound tensile test without cracking or breaking.
- (iii) Snaphooks, 5,000-pound tensile test without distortion which would release the keeper. The keeper shall have a spring tension that does not allow the keeper to open with a weight of not less than 4 pounds when the weight is supported on the keeper against the end of the nose.

(iv) The corrosion-resistant finish shall meet the requirements of the ASTM B117-73 (1979), 50-hour test published in 1973 and approved in 1979 without change, which is incorporated herein by reference and may be inspected at the Lansing office of the department of consumer and industry services. This standard may be purchased at a cost of \$4.00 from the American Society of Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 10103, or from the Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(c) The cushion part of a lineman's belt shall meet all of the following requirements:

- (i) It shall contain no exposed rivets on the inside.
- (ii) It shall be not less than 3 inches wide and not less than 5/32 inch thick.
- (iii) It shall have pocket tabs that extend not less than 1 1/2 inches down and 3 inches back of the inside of the circle of each D ring for riveting on plier or tool pockets. On shifting D belts, the measurement for pocket tabs shall be taken when the D ring section is centered.

(d) A maximum of 4 tool loops shall be so located on the lineman's belt that 4 inches of the lineman's belt in the center of the back, measured from D ring to D ring, are free of tool loop and other attachments.

(e) Copper, steel, or equivalent liners shall be used around the bar of D rings to prevent wear between the D ring and the leather or fabric enclosing them.

(f) All stitching shall be not less than 42-pound weight nylon or equivalent thread and shall be lock-stitched. Stitching parallel to an edge shall be not less than 3/16 inch from the edge of the narrowest member caught by the thread.

**R 408.40635 Safety nets.**

**Rule 635.** (1) An employer shall provide safety nets if a workplace is more than 30 feet above the ground, water, or other surfaces and if the use of ladders, scaffolds, catch platforms, temporary floors, safety lines, or safety belts is impractical.

(2) If safety net protection is used, an employer shall ensure that operations are not undertaken until the net is in place and has been tested as follows:

- (a) A 250-pound test weight shall be dropped from a height of 50 feet, or a 500-pound test weight from a height of 25 feet, into the approximate center of each panel of the net. The test weight shall be a sand-filled canvas bag that is approximately 5 feet in length.
- (b) A safety net shall be field-tested and inspected by a qualified person who is designated as responsible for the safety of the employees to be protected. A field test tag shall be affixed to the net at an accessible location and show the test date and the name of the qualified person who conducted the test.
- (c) The designated qualified person shall test a net which is in place and which is continuously used not less than once every 30 days. The designated qualified person shall test a net which is in place and which has not been used in a 30-day period before use.
- (d) A net exposed to oil, grease, acid, or other materials which have a deteriorating effect on the net shall be constructed of a material that is resistant to the deteriorating effects.

(3) An employer shall ensure that a net extends 8 feet beyond the edge of the work surface where an employee is exposed and is installed as close under the work surface as practical, but not more than 25 feet below the work surface. An employer shall ensure that the net is hung with sufficient clearance to prevent an employee from coming in contact with the surface below. An employer shall determine the clearance by impact load testing as required in subrule (2) of this rule.

(4) An employer shall ensure that the mesh size of a net is not more than 6 inches by 6 inches.

(5) An employer shall ensure that a net purchased after the effective date of this part bears a label certifying an accepted performance of 17,500 foot-pounds minimum impact resistance for each panel. An employer shall ensure that the edge ropes provide a minimum breaking strength of 5,000 pounds.

(6) An employer shall ensure that forged steel safety hooks or shackles are used to fasten the net to its supports.

(7) An employer shall ensure that connections between net panels develop a safety net that has the full strength of each panel.

(8) An employer shall maintain a safety net free of debris that might cause injury to a falling employee.

(9) If an employee working below a safety net is exposed to falling tools or other objects, then an employer shall ensure that a supplemental net, or equivalent material capable of withstanding the impact, is laid inside the safety net to protect the employee.

**R 408.40636. Working over or near water.**

**Rule 636.** (1) Where a possibility of drowning exists, an employee working over or adjacent to water shall wear a life jacket or buoyant work vest. The life jacket or buoyant vest shall bear a label, "U.S. Coast Guard approved." The jacket shall be of a type to roll the wearer face up, if unconscious.

(2) Before each use, the life jacket or buoyant vest shall be inspected for defects which might alter its strength or buoyancy. Defective units shall not be used.

(3) A ring buoy with not less than 90 feet of safety line shall be provided and shall be readily available for rescue operations. The distance between the buoys shall not be more than 200 feet.

(4) Not less than 1 lifesaving boat equipped with a method of propulsion that is effective for the water conditions shall be available at the location where an employee works over or adjacent to water and the possibility of drowning exists.

**R 408.40641 Rubber protective equipment; certification; use and storage.**

**Rule 641.** (1) An employer shall ensure that all of the following, when required by R 408.41601 et seq. or R 408.41701 et seq., bear a permanent mark to show the manufacturer's name or trademark and certification of compliance with the appropriate ASTM standard as listed in table 4:

- (a) Rubber insulating gloves.
- (b) Rubber insulating matting.
- (c) Rubber insulating blankets.
- (d) Rubber insulating covers.
- (e) Rubber insulating line hose.
- (f) Rubber insulating sleeves.

The following standards listed in table 4 are adopted by reference in the rules and may be inspected at the Lansing office of the department of consumer and industry services. The ASTM standards may be purchased from the American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, Pennsylvania 19428-2959. The ASTM customer service telephone number is (610) 832-9585. Each of these standards may also be purchased at a cost of \$30.00 as of the time of adoption of this rule from the Standards Division, Michigan Department of Consumer and Industry Services, 7150 Harris Drive, Box 30643, Lansing, Michigan 48909.

(2) Table 4 reads as follows:

**TABLE 4**

ITEM	ASTM	COST
Rubber Insulating Gloves	D120-95	\$30.00
Rubber Insulating Matting	D178-93	\$30.00
Rubber Insulating Blankets	D1048-98	\$30.00
Rubber Insulating Covers	D1049-98	\$30.00
Rubber Insulating Line Hose	D1050-90	\$30.00
Rubber Insulating Sleeves	D1051-95	\$30.00

(3) Material other than rubber that offers equivalent or greater protection may be used in insulating gloves, insulating matting, insulating blankets, insulating covers, insulating line hose, and insulating sleeves if the material is certified to meet the appropriate ASTM standard tests.

(4) A trained employee or outside service shall visually inspect rubber insulating sleeves and blankets and perform an electrical test within 12 months after purchase and not less than once every 12 months after the initial inspection and electrical test. An employer shall ensure that the equipment is dated or coded with the date of purchase or issuance and the date of each periodic test. The trained employee or outside service shall perform the electrical test in accordance with the applicable American society for testing and materials standards listed in table 4.

(5) The employee who is to use the equipment shall visually inspect the equipment listed in table 4 for cracks, cuts, punctures, and thin spots before each use. If insulating gloves are required and used, then that employee shall manually air test the gloves daily before starting work.

(6) The employer shall ensure that equipment that does not meet the electrical test requirements, visual inspection, or manual air test for flaws, scuffs, snags, punctures, and foreign substances, such as oil, dirt, or grease shall be removed from service.

(7) An employer shall ensure that an insulated blanket, glove, or sleeve is capable of withstanding the voltage to which it may be subjected.

(8) The employer shall keep insulating gloves, sleeves, and blankets as free as possible from ozone, chemicals, heat, oils, solvents, damaging vapors, fumes, electrical discharges, and sunlight. The employer shall store the gloves, sleeves, and blankets in a bag, box, container, or compartment that is designed and used exclusively for their storage and shall not fold, crease, or compress the gloves, sleeves, and blankets.

(9) The maximum intervals for the electrical retesting of gloves required by ASTM F496-97 are shown in the following table:

**TABLE 5  
ELECTRICAL RETESTING OF GLOVES**

DESCRIPTION	MAXIMUM INTERVAL BETWEEN TESTS
1. Gloves, in use	6 months
2. Gloves, in use by telecommunication industry	9 months
3. Gloves, tested but not issued for service	12 months

Note: Work practices and test experience shall be taken into consideration in determining intervals between tests.